EXHIBIT C

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

IN RE CASSAVA SCIENCES, INC. SECURITIES LITIGATION	§	Master File No. 1:21-CV-751-DAE
	§	
	§	CLASS ACTION
This Document Relates to:	§	
	§	
ALL ACTIONS.	§	
	§	

ORDER GRANTING IN PART AND DENYING IN PART
DEFENDANTS' MOTION TO DISMISS

Before the Court is Defendants' Motion to Dismiss Plaintiffs' Consolidated Complaint filed on October 25, 2022. (Dkt. # 81.) The Court held a hearing on Defendants' Motion on April 26, 2023. After careful consideration of the memoranda filed in support of and in opposition to the Motion, as well as the arguments advanced at the hearing, the Court, for the reasons below, **GRANTS IN PART** and **DENIES IN PART** Defendants' Motion to Dismiss.

BACKGROUND

This case arises from four securities class action lawsuits brought against Cassava Sciences, Inc. ("Cassava") and Cassava executives Remi Barbier, Eric Schoen, Lindsay Burns, and Nadav Friedmann (the "Individual Defendants," and together with Cassava, "Defendants"). After this Court consolidated the cases into a single action (dkt. # 58), Lead Plaintiff Mohammad Bozorgis and additional

plaintiffs Ken Calderone and Manohar Rao (collectively, "Plaintiffs") filed a Consolidated Complaint on behalf of those who purchased or otherwise acquired Cassava securities between September 14, 2020, and July 26, 2022 (the "Class Period") (dkt. # 68).

Plaintiffs allege securities fraud claims against Defendants under Section 10(b) of the Securities Exchange Act of 1934 (the "Exchange Act"), 15 U.S.C. § 78j(b), and Rule 10b-5, 17 C.F.R. § 240.10b-5. (Id. ¶¶ 520–24.) Plaintiffs also bring claims for control person liability against the Individual Defendants under Section 20(a) of the Exchange Act, 15 U.S.C. § 78t(a). (Id. ¶¶ 525–26.)

I. The Company

Cassava is a small biotechnology company based in Austin, Texas. (Dkt. # 68 ¶ 73.) Cassava's primary drug candidate is simufilam, a small-molecule drug designed to treat Alzheimer's disease. (Id. ¶ 80.) Some analysts have predicted that simufilam could generate billions of dollars in annual revenue within the next decade should it prove to be an effective treatment for Alzheimer's disease. (Id. ¶ 81.)

Cassava was founded by Remi Barbier ("Barbier"), who serves as its Chairman, President, and Chief Executive Officer. (Id. ¶¶ 1, 59.) Lindsay Burns ("Dr. Burns") is Cassava's Senior Vice President of Neuroscience. (Id. ¶ 61.)

Both are members of Cassava's product development and management teams. (Id. ¶¶ 59, 61.) Nadav Friedmann ("Dr. Friedmann") served as Cassava's Chief Operating Officer and Chief Medical Officer and was a member of its board of directors.[1] (Id. ¶¶ 64, 65.) Eric Schoen ("Schoen") is Cassava's Chief Financial Officer. (Id. ¶ 67.) Hoau-Yan Wang ("Dr. Wang")[2] is an Associate Medical Professor at the City University of New York ("CUNY") School of Medicine and is a member of Cassava's scientific advisory board, a Cassava consultant, and the co-inventor of simufilam. (Id. ¶ 57.)

Cassava's predecessor entity, Pain Therapeutics, Inc., began operating in 1998. (Id. ¶ 74.) Pain Therapeutic's primary drug candidate, a painkiller named Remoxy, never received approval from the United States Food and Drug Administration ("FDA"). (Id.) On August 6, 2018, after Pain Therapeutics announced that it had received a Complete Response Letter from the FDA denying its Remoxy New Drug Application, its stock price "lost nearly all of its value." (Id. ¶¶ 74, 75.) In March 2019, Pain Therapeutics rebranded as Cassava and announced that it would be "align[ing] its resources on advancing its drug and diagnostic assets in Alzheimer's disease." (Id. ¶ 75.)

[1] On January 27, 2023, a Suggestion of Death of Defendant Nadav Friedmann was filed. (Dkt. # 91.)
[2] Dr. Wang is not a defendant in this case.

Cassava developed simufilam during research conducted at the company from about 2008 to 2018. (Id. ¶ 80.) (During this time, Cassava also developed SavaDx, a diagnostic product candidate aimed at detecting Azheimer's disease.) (Id.) Simufilam is intended to restore a protein, filamin A, that Cassava's scientists state is misshapen in the brains of Alzheimer's patients. (Id. ¶ 83.) Dr. Burns and Dr. Wang published their research on filamin A and simufilam in several peer-reviewed scientific journals. (Id. ¶ 87.)

In July 2017, the company announced that the FDA had approved its Investigational New Drug application to study simufilam in patients with Alzheimer's disease. (Id. ¶ 88.) The press release noted that "[t]he underlying science for [simufilam] has been published in Journal of Neuroscience, Neurobiology of Aging, Journal of Biological Chemistry, PLOS-One and other peer-reviewed scientific journals." (Id.)

Following the successful completion of its Phase 1 and Phase 2a clinical studies, Cassava launched a Phase 2b study (a placebo-controlled, blind trial) in September 2019. (Id. ¶¶ 88, 89.) The bioanalysis for the study was conducted by a lab at Lund University. (Id. ¶ 94.) On May 15, 2020, Cassava announced that the Phase 2b study "did not meet its primary endpoint" because it did not show that simufilam lowered certain biomarkers of Alzheimer's disease. (Id. ¶¶ 8, 90.) Cassava's stock price tumbled. (Id. ¶ 91.)

II. The Class Period

A few months later, on September 14, 2020, Cassava issued a press release announcing the "final results" of its Phase 2b study. (Id. ¶¶ 93, 268.) The press release stated that all samples "were sent to outside labs for bioanalysis" to measure the biomarkers and that "[a]n academic lab generated final results." (Id. ¶ 271.) According to Cassava, "an initial bioanalysis by a different lab showed highly anomalous data . . . . With its validity in question, the initial bioanalysis serves no useful purpose." (Id.) But the "final results" showed that simufilam "significantly improved an entire panel of validated biomarkers" of Alzheimer's disease. (Id. ¶ 269.)

Cassava did not disclose, however, that the reanalysis had been conducted by Dr. Wang's lab[3] and contained "highly anomalous" results. (Id. ¶ 96.) Immediately following the press release and an investor conference call—during which Barbier stated that the reanalysis was performed by an "academic lab"—Cassava's stock price climbed. (Id. ¶¶ 276, 279.)

A few weeks earlier, in August 2020, Cassava's Board of Directors had approved a "cash incentive bonus plan" that tied cash bonuses to increases in

[3] Plaintiffs note that a previous presentation by Cassava about the results of the simufilam Phase 2a study *did* disclose that Dr. Wang was a Cassava consultant and that Dr. Wang and others at CUNY conducted the biomarker analysis. (Id. ¶¶ 259, 260.)

Cassava's stock price. (Id. ¶¶ 2, 98, 100–03.) Thus, "Barbier and other Cassava executives stood ready to cash in on the Phase 2b study reanalysis."[4] (Id. ¶ 98.) Cassava reached the first valuation milestone under the bonus plan in October 2020. (Id. ¶ 101.) On November 13, 2020, Cassava sold 9,375,000 shares of common stock for $75 million. (Id. ¶ 288.)

In February 2021, Cassava's stock leapt again after Cassava reported results from another trial that indicated simufilam may renew cognitive function in patients with Alzheimer's disease. (Id. ¶ 10.) Cassava sold over four million shares of its common stock at $49 per share on February 10, 2021. (Id. ¶¶ 10, 11.) On February 22, 2021, Cassava announced that the FDA and Cassava had reached an agreement on key elements of a Phase 3 program for simufilam. (Id. ¶ 297.)

On July 26, 2021, a Cassava poster authored by Dr. Burns, Dr. Wang, and others on the Phase 2b trial was presented at the Alzheimer's Association International Conference. (Id. ¶ 218.) However, a key plasma biomarker data point had been inserted into the placebo group rather than the 100mg group. (Id. ¶¶ 222, 329.)

By July 29, 2021, Cassava's stock price had reached $146 per share. (Id. ¶ 6.) But on August 18, 2021, a Citizen Petition was filed with the FDA

[4] Dr. Wang was apparently also a participant in an unspecified Cassava bonus plan. (Id. ¶ 104.)

raising "grave concerns about the quality and integrity of the laboratory-based studies" involving simufilam. (Id. ¶ 105.) The Citizen Petition noted that all the foundational research supporting simufilam came from journal articles "with two common co-authors": Dr. Wang and Dr. Burns. (Id. ¶ 106.)

The Citizen Petition cited three primary concerns: 1) the Western blots in the journal articles contained "a series of anomalies that are strongly suggestive of systematic data manipulation and misrepresentation"; 2) Cassava's presentation of its Phase 2b "final results" raised questions about the validity of the data, while the July 26, 2021 poster showed "signs of data anomalies or manipulation"; and 3) some experiments conducted by Dr. Wang and Dr. Burns were on postmortem human brain tissue and presented data that also bore "hallmarks of manipulation." (Id. ¶ 107.) The Petition further noted that Cassava (and before that, Pain Therapeutics) has funded Dr. Wang's lab at CUNY for over fifteen years. (Id. ¶ 108.)

The authors of the Citizen Petition were later revealed to be Dr. David Bredt and Dr. Geoffrey Pitt. (Id. ¶ 105.) After reviewing Cassava's pre-clinical research, Drs. Bredt and Pitt had noticed that some images of Cassava's Western-blot tests "looked . . . as though they had been tweaked by a program such as Photoshop." (Id. ¶ 120.) The science behind simufilam also "didn't make sense."

(Id.) Although neither worked for short seller firms, both shorted Cassava's stock. (Id. ¶ 112.)

On August 25, 2021, Cassava issued a public statement before the market opened to respond to the Citizen Petition, which had been "posted on-line [on August 24, 2021] after market hours." (Id. ¶ 316.) Cassava called the Petition's claims "false and misleading," declared that Cassava "stands behind its science, its scientists and its scientific collaborators," and provided a list of statements labeled either "fiction" or "fact." (Id. ¶¶ 316, 317.) Two of the statements concerned the biomarker data from the reanalysis:

> **Fiction**: Biomarker data is generated by Cassava Sciences or its science collaborators and therefore are falsified.
>
> **Fact**: Cassava Sciences' plasma p-tau data from Alzheimer's patients was generated by [Quanterix], an independent company, and presented at the recent Alzheimer's Association International Conference[].

(Id. ¶ 317.) Despite its denials, Cassava's stock fell sharply. (Id. ¶ 15.) Two days later, Cassava's stock fell again when Quanterix issued the following statement: "Cassava previously engaged Quanterix' Accelerator laboratory to perform sample testing based on blinded samples provided by Cassava. Quanterix or its employees did not interpret the test results or prepare the data charts presented by Cassava at the Alzheimer's Association International Conference (AAIC) in July 2021 or otherwise." (Id. ¶ 323.) Cassava responded the same day and confirmed that

"Quanterix' sole responsibility with regard to this clinical study was to perform sample testing, specifically, to measure levels of p-tau in plasma samples collected from study subjects." (Id. ¶ 324.)

That day, Dr. Elisabeth Bik, an expert in identifying manipulation in biomedical images, posted online that she had reviewed the photos included in the Citizen Petition and "agree[d] with most of those concerns." (Id. ¶¶ 132, 135.) She also stated that "[a]t least five other articles from the Wang lab at CUNY appear to show image concerns." (Id. ¶ 135.) Cassava's stock price continued to fall after an August 30, 2021 supplement to the Citizen Petition "identified new instances of scientific misconduct by Cassava and Dr. Wang." (Id. ¶¶ 18, 19.) A few days later, it fell again after Cassava issued a press release in which Barbier again denied the allegations in the Citizen Petition but did acknowledge "visual errors" in "one publication and one poster presentation." (Id. ¶ 20.)

Cassava's stock price jumped by almost 50% on November 4, 2021, after Cassava issued a press release stating that it "had been informed by the *Journal of Neuroscience* that there is no evidence of data manipulation in an article it published in July 2012 describing a new approach to treating Alzheimer's disease." (Id. ¶¶ 22, 23, 339.) Cassava explained that the journal had requested "raw data for the article, including images of original, uncropped Western blots. Having received that data and completed its review, the *Journal of Neuroscience*

stated: 'No evidence of data manipulation was found for Western blot data.'" (Id. ¶ 22.) But Cassava's stock price then dropped again when Dr. Bik posted a few days later that she had reviewed the images and they did not appear to be the originals.[5] (Id. ¶¶ 24, 25.)

Cassava's stock price dropped even lower when Cassava disclosed in November 2021 that "[c]ertain government agencies have asked us to provide them with corporate information and documents." (Id. ¶¶ 26, 27.) A *Wall Street Journal* article subsequently revealed that the U.S. Securities and Exchange Commission and the National Institutes of Health were investigating the research manipulation claims, and that CUNY had begun to investigate Dr. Wang's lab. (Id. ¶ 28.)

Cassava's stock price further declined after a third supplement to the Citizen Petition was filed in November 2021 (alleging that several biomarkers analyzed by Dr. Wang's lab in the Phase 2a study "also appear to have wildly anomalous baseline measures" and that certain of Drs. Wang and Burns's experiments "seem scientifically undoable"), and then again when a fourth

[5] Emails between the editor-in-chief of the *Journal of Neuroscience* and Dr. Wang from November 3, 2021, reflect that Dr. Wang provided a PowerPoint "containing the requested uncropped blots"—rather than the original blots—because it was "more difficult than [Dr. Wang] anticipated to find the blots." (Id. ¶ 355.) The *Journal of Neuroscience* later changed its editorial note into an Expression of Concern. (Id. ¶¶ 33, 357.)

supplement was filed in December 2021 (alleging that Drs. Bredt and Pitt had found "irrefutable evidence of data manipulation/fabrication"). (Id. ¶¶ 29–32, 372–73, 380.) In 2022, several journals retracted papers authored by Dr. Wang and Dr. Burns, and another journal issued an Expression of Concern.[6] (Id. ¶¶ 37–39.)

On February 10, 2022, the FDA denied the Citizen Petition, stating that it was "being denied solely on the grounds that your requests are not the appropriate subject of a citizen petition." (Id. ¶ 411.) Cassava's press release the same day contained a statement from Barbier: "The news is very welcome but not surprising . . . . We said from the outset that the allegations are false. I think the message may be that the FDA's citizen petition privilege is not to be trifled with by stock market participants." (Id. ¶ 412.)

Even so, Cassava's stock price fell again after *The New York Times* published an April 18, 2022 article in which nine "prominent experts" said that "they did not trust [Cassava's] methods, results or even the premise underlying

[6] One journal, *Neuroscience*, stated in an editorial note on December 20, 2021, that it found "no evidence" of manipulation in a 2005 paper by Drs. Burns and Wang. (Id. ¶ 387.) The journal reported that it "asked the authors for images of the original, uncropped Western blots from this study" and "[a]fter careful examination of these original material . . . found no evidence of manipulation of the Western blot data or other figures of this publication." (Id.) But Drs. Wang and Burns allegedly did not provide the original, uncropped Western blots to *Neuroscience*. (Id. ¶¶ 389, 396.)

[simufilam's] supposed effectiveness." (Id. ¶¶ 40, 41.) And the price fell yet again when *Reuters* revealed that the Department of Justice had opened a criminal probe into Cassava's research results. (Id. ¶¶ 43, 44.)

In short, Plaintiffs allege that Cassava misrepresented the research on simufilam by manipulating data and failing to disclose conflicts of interest. By misrepresenting its research results, Defendants were able to raise millions of dollars to fund simufilam's development and stood to personally profit from cash bonuses.

LEGAL STANDARDS

Under Rule 12(b)(6), a court may dismiss a complaint for "failure to state a claim upon which relief can be granted." Fed. R. Civ. P. 12(b)(6). In analyzing a motion to dismiss for failure to state a claim, the court "accept[s] 'all well pleaded facts as true, viewing them in the light most favorable to the plaintiff.'" United States ex rel. Vavra v. Kellogg Brown & Root, Inc., 727 F.3d 343, 346 (5th Cir. 2013) (quoting In re Katrina Canal Breaches Litig., 495 F.3d 191, 205 (5th Cir. 2007)).

To survive a Rule 12(b)(6) motion to dismiss, the plaintiff must plead "enough facts to state a claim to relief that is plausible on its face." Bell Atl. Corp. v. Twombly, 550 U.S. 544, 570 (2007). "A claim has facial plausibility when the plaintiff pleads factual content that allows the court to draw the reasonable

inference that the defendant is liable for the misconduct alleged." Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009).

In addition, when alleging claims under Section 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder, a plaintiff must:

(1) specify each statement alleged to have been misleading, i.e. contended to be fraudulent;

(2) identify the speaker;

(3) state when and where the statement was made;

(4) plead with particularity the contents of the false representations;

(5) plead with particularity what the person making the misrepresentation obtained thereby;

(6) explain the reason or reasons why the statement is misleading, i.e. why the statement is fraudulent.

ABC Arbitrage Plaintiffs Grp. v. Tchuruk, 291 F.3d 336, 350 (5th Cir. 2002). Further, if an allegation regarding a statement or omission is "made on information and belief, the plaintiff must (7) state with particularity all facts on which that belief is formed, *i.e.*, set forth a factual basis for such belief." Id. (citing 15 U.S.C. § 78u–4(b)(1)). According to the Fifth Circuit, "this is the 'who, what, when, where, and how' required under Rule 9(b) in our securities fraud jurisprudence and under the PSLRA." Id.

DISCUSSION

The elements of a securities-fraud claim under Section 10(b) and Rule 10b–5 are "(1) a material misrepresentation or omission by the defendant; (2) scienter; (3) a connection between the misrepresentation or omission and the purchase or sale of a security; (4) reliance upon the misrepresentation or omission; (5) economic loss; and (6) loss causation." Stoneridge Inv. Partners, LLC v. Sci.-Atlanta, 552 U.S. 148, 157 (2008).

Defendants contend that the Complaint violates basic pleading rules by "puzzle pleading." Defendants also challenge the adequacy of the Complaint's allegations regarding material misrepresentations or omissions, scienter, and loss causation.

I. Puzzle Pleading

"Puzzle pleading" requires a court to "wade through a complaint and pick out properly pleaded segments." Owens v. Jastrow, 789 F.3d 529, 537 (5th Cir. 2015); see also In re Autodesk, Inc. Sec. Litig., 132 F. Supp. 2d 833, 841 (N.D. Cal. 2000) (declining to solve the puzzle of "try[ing] to figure out exactly what the misleading statements are, and to match the statements up with the reasons they are false or misleading").

According to Defendants, the Complaint is a "paradigm example" of puzzle pleading and should be dismissed on this ground alone. (Dkt. # 81 at 12–

13.) Defendants assert that the Complaint is improperly pleaded because Plaintiffs did not tie each of the alleged misstatements to the reason or reasons each statement is false or misleading, "leaving the reader to decipher which of the 15 purported reasons apply to each of the 47 alleged misstatements." (Id.) Plaintiffs respond that the Complaint contains a dedicated section in which Plaintiffs set out each of the alleged false and misleading statements, with the relevant portions bolded and italicized, followed by the corresponding adverse facts. (Dkt. # 86 at 3.) Plaintiffs argue that the Motion to Dismiss itself demonstrates that Defendants were able to identify the statements and the reasons for their alleged falsity. (Id.)

The Court does not find this Complaint to be a paradigm example of puzzle pleading. The reader can logically connect the bolded and italicized statements to the reasons Plaintiffs allege they are false or misleading. See Rougier v. Applied Optoelectronics, Inc, No. 4:17-CV-2399, 2019 WL 6111516, at *8 (S.D. Tex. Mar. 27, 2019) (declining to dismiss a complaint because the plaintiff's explanations for the falsity of the statements logically corresponded with each alleged misstatement); In re Concho Res. Inc., No. 4:21-CV-2473, 2023 WL 2297425, at *17 (S.D. Tex. Feb. 23, 2023) (same); cf. Primo v. Pac. Biosciences of California, Inc., 940 F. Supp. 2d 1105, 1112 (N.D. Cal. 2013) (noting that while the plaintiffs made "some attempt to connect the alleged omissions to particular statements," they did so "in a general manner that require[d] the reader to guess

what particular statements they mean or how those statements were rendered false and misleading"). Because the Court is able to discern which reasons apply to each allegedly false or misleading statement without undue effort, the Court will not dismiss the Complaint on the ground that it engages in impermissible puzzle pleading.

II. Actionable Misstatements or Omissions

Defendants argue Plaintiffs have failed to adequately plead an actionable misstatement or omission. (Dkt. # 81 at 13.) Defendants contend that the misstatements or omissions detailed in the Complaint are not actionable either because there is no duty to disclose, because they are not supported by particularized allegations of fact, or because they are true. (Id. at 2, 13, 15, 19.)

A. Disclosure Obligations

Defendants assert that Plaintiffs' arguments about Defendants' failure to disclose "run[] contrary to the well-settled principle that there is no duty to 'confess' to unadjudicated allegations of wrongdoing." (Id. at 2.) Plaintiffs respond that they do not allege "an independent duty to disclose uncharged criminal behavior," but that Defendants' statements were false and misleading because Defendants omitted important information when making public statements. (Dkt. # 86 at 17.)

Along with pleading "the type of facts omitted, the place in which the omissions should have appeared, and the way in which the omitted facts made the representations misleading," Carroll v. Fort James Corp., 470 F.3d 1171, 1174 (5th Cir. 2006), a plaintiff must establish "a substantial likelihood" that the disclosure of the omitted facts would have been viewed by the reasonable investor as having significantly altered the "total mix" of information made available." Basic Inc. v. Levinson, 485 U.S. 224, 231–32 (1988). "[D]etermining materiality is a 'fact-specific inquiry that requires consideration of the source, content, and context' of the allegedly omitted information." Rougier, 2019 WL 6111516, at *8 (citing Matrixx Initiatives, Inc. v. Siracusano, 563 U.S. 27, 43 (2011)).

Although "corporate officials need not present an overly gloomy or cautious picture of the company's current performance," its public statements must still be "reasonably consistent with reasonably available data." Abrams v. Baker Hughes Inc., 292 F.3d 424, 433 (5th Cir. 2002) (citing Novak v. Kasaks, 216 F.3d 300, 309 (2d Cir. 2000)). "[A] duty to speak the full truth arises when a defendant undertakes a duty to say anything." In re Concho Res. Inc., 2023 WL 2297425, at *17 (quoting Oklahoma Firefighters Pension & Ret. Sys. v. Six Flags Ent. Corp., 58 F.4th 195, 217 (5th Cir. 2023)).

Defendants had a duty to disclose certain facts relating to its clinical trial results. According to Plaintiffs, Defendants failed to disclose that:

- The Phase 2a study and 2b reanalysis "suffered from highly anomalous baseline measurements." (Dkt. # 86 at 19.)
- Defendants "intentionally removed unfavorable data" from Cassava's presentation of the Phase 2b results. (Id.)
- The Phase 2b reanalysis was conducted by Dr. Wang's lab. (Id. at 20.)
- Quanterix did not interpret the test results or prepare the data for the Phase 2b reanalysis. (Id. at 21.)
- The missing data point from the AAIC poster reflected a 150% increase rather than a 38% increase. (Id.)

A reasonable investor could certainly have viewed these omissions—particularly the omission related to the involvement of Dr. Wang's lab—as significantly altering the total mix of information available. See Frater v. Hemispherx Biopharma, Inc., 996 F. Supp. 2d 335, 346 (E.D. Pa. 2014) (concluding that a "factfinder could easily determine that announcements that [the company's] studies demonstrated [a drug's] effectiveness implied those studies' empirical validity and analytic soundness"); The MJK Fam. LLC v. Corp. Eagle Mgmt. Servs., Inc., No. CIV.09-12613, 2009 WL 4506418, at *8 (E.D. Mich. Nov. 30, 2009) (collecting cases holding that undisclosed conflicts of interest are material).

Plaintiffs further claim that Defendants touted the research by Cassava that supported simufilam but failed to disclose that this research was "rife with manipulated data." (Dkt. # 86 at 14.) Taking Plaintiffs' allegations as true—as the Court must do at this stage—the Court finds that, if ultimately proven, the statements regarding manipulated or falsified data would be actionable.

The Court agrees with Defendants that "an investigation is not a violation." See In re Key Energy Servs., Inc. Sec. Litig., 166 F. Supp. 3d 822, 863 (S.D. Tex. 2016) (collecting cases holding same). But the initiation of government investigations into Cassava is not the only evidence relied on by Plaintiffs to support their claims of extensive data manipulation. The Complaint details specific instances of allegedly intentional manipulation and supports these allegations with "photographic evidence." In addition, Plaintiffs describe the response from scientific journals (which included retractions and expressions of concern) and independent experts who reviewed Cassava's research. Cf. In re KBR, Inc. Sec. Litig., No. CV H-17-1375, 2018 WL 4208681, at *3 (S.D. Tex. Aug. 31, 2018) ("Plaintiffs simply assumed the worst based on the fact that certain governmental agencies have announced the opening of investigations . . . ."); Parker v. Hyperdynamics Corp., 126 F. Supp. 3d 830, 843 (S.D. Tex. 2015) ("The only authoritative evidence in the record that FCPA violations occurred is [the company's] disclosure of subpoena requests" by the DOJ and SEC).

The materiality of Cassava's alleged omissions regarding its research is supported by the drops in stock price that accompanied each revelation of an alleged omission or misrepresentation. Frater, 996 F. Supp. 2d at 347. The Court concludes Plaintiffs have sufficiently pled actionable misstatements and omissions by Defendants to survive a motion to dismiss.

B. Particularized Allegations

Defendants argue that because the allegations of data manipulation and other misconduct have never been adopted or advanced by any entity or person with personal knowledge of the underlying facts, the Complaint does not meet the PSLRA's requirement that the Complaint be supported by particularized allegations of fact.[7] (Dkt. # 81 at 15.)

However, the "the PSLRA acknowledges that complaints will often have to be pleaded based on acquired information." Bond v. Clover Health Invs., Corp., 587 F. Supp. 3d 641, 667 (M.D. Tenn. 2022). "[T]he particularity rules should not be interpreted to require the pleading of facts which, because of the lack of discovery, are in defendants' exclusive possession." In re Fleming Cos. Inc.

[7] Defendants also argue that the PSLRA does not permit opinions to substitute for facts. (Id. at 13.) Plaintiffs respond that "detailed facts and supporting documentation (including photographic evidence) pled in the Complaint show specific and widespread instances of data manipulation based on first-hand analysis of Cassava's own data." (Dkt. # 86 at 15.) Upon reviewing the Complaint, the Court agrees that Plaintiffs have included sufficient factual allegations to support the claims of data manipulation.

Sec. & Derivative Litig., No. CIVA503MD1530TJW, 2004 WL 5278716, at *6 (E.D. Tex. June 16, 2004) (citing ABC Arbitrage, 291 F.3d at 348).

Other courts have found it permissible for plaintiffs to rely on short-seller reports to allege falsity at the motion to dismiss stage. Bond, 587 F. Supp. 3d at 668 (citing McIntire v. China MediaExpress Holdings, Inc., 927 F. Supp. 2d 105 (S.D.N.Y. 2013); Snellink v. Gulf Res., Inc., 870 F. Supp. 2d 930, 939 (C.D. Cal. 2012). This is because the reliability of short-seller reports—here, the Citizen Petitions—is a question of fact that the Court cannot resolve at this time. See McIntire, 927 F. Supp. 2d at 123–24 (collecting cases).

C. Literal Truth

Finally, Defendants argue that several statements are not actionable because they are true. (Dkt. # 81 at 19, 20.) But it is well-settled that "[t]he ability of a statement to provide accurate information, rather than the statement's literal truth, is the benchmark by which statements to the market are measured in securities fraud cases." KB Partners I, L.P. v. Pain Therapeutics, Inc., No. A-11-CA-1034-SS, 2015 WL 7760201, at *9 (W.D. Tex. Dec. 1, 2015) (citing Lormand v. U.S. Unwired, Inc., 565 F.3d 228, 248 (5th Cir. 2009)); see also Omnicare, Inc. v. Laborers Dist. Council Constr. Indus. Pension Fund, 575 U.S. 175, 192 (2015) ("[L]iteral accuracy is not enough: An issuer must as well desist from misleading investors by saying one thing and holding back another.") For example, while it

may be literally true that Dr. Wang's lab is an "outside lab," a factfinder might find this statement misleading given Dr. Wang's ties to Cassava. See Bond, 587 F. Supp. 3d at 672 ("[T]here is a point at which a speaker's use of elision and obfuscation becomes actionable, even if he has in his back pocket an anticipated defense that nothing he said was technically untrue.")

III. Scienter

The PSLRA requires that a complaint in a securities case support allegations of scienter with "facts giving rise to a strong inference that the defendant acted with the required state of mind." Six Flags Ent. Corp., 58 F.4th at 214 (citing 15 U.S.C. § 78u-4(b)(2)(A)). "A complaint adequately pleads scienter by alleging facts that support the defendant acted with an 'intent to deceive, manipulate, or defraud or severe recklessness.'" Id. (citing Lormand, 565 F.3d at 251).

When evaluating scienter, a court must (1) take the factual allegations as true, (2) "consider the complaint's allegations in its entirety," and (3) "take into account plausible inferences opposing as well as supporting a strong inference of scienter." Id. The inference of scienter must be "cogent and compelling." Id. (citing Tellabs, Inc. v. Makor Issues & Rts., Ltd., 551 U.S. 308, 314 (2007)).

Defendants assert that Plaintiffs have not alleged specific facts that give rise to a strong inference of scienter. (Dkt. # 81 at 23.) Defendants also argue

that Plaintiffs' allegations regarding Defendants' motives do not support an inference of scienter and that Plaintiffs rely on generalized and group pleading. (Id. at 24, 27.)

A. Specific Facts

Selective reporting supports an inference of scienter. Ho v. Flotek Indus., Inc., 248 F. Supp. 3d 847, 852 (S.D. Tex. 2017), aff'd sub nom. Alaska Elec. Pension Fund v. Flotek Indus., Inc., 915 F.3d 975 (5th Cir. 2019). Plaintiffs have made several allegations regarding selective reporting by Defendants, including that Defendants did not divulge that the "outside lab" for the reanalysis was in fact Dr. Wang's lab (despite disclosing Dr. Wang's involvement with the 2a trial results), and that the Phase 2b "final results" contained anomalous data.

Scienter can also be "supported by the reaction" of the scientific community "to the disclosure of Defendants' manipulation of data." In re Fibrogen, Inc., No. 21-CV-02623-EMC, 2022 WL 2793032, at *22 (N.D. Cal. July 15, 2022). Plaintiffs allege that the main reaction of ten prominent scientists to Cassava's research papers was "Oh, my God, how could they get away with this?" (Dkt. # 68 ¶ 123.) According to one scientist, "numerous top Alzheimer's experts, plus forensic image specialists . . . were stunned by the apparent extreme manipulations." (Id. ¶ 127.) An author of the Citizen Petition claimed that "[i]n my thirty-five years of research, I've never seen such a long trail of apparently

clear misrepresented scientific data." (Id. ¶ 128.) When *The New York Times* "contacted nine prominent experts for comment about the scientific underpinnings of Cassava's trials," all the experts said that they "did not trust the company's methods, results or even the premise underlying the drug's supposed effectiveness." (Id. ¶ 425.)

Further, when confronted with the Citizen Petition, Cassava issued a statement almost immediately, calling the Petition's claims "false and misleading" and declaring that Cassava "stands behind its science, its scientists and its scientific collaborators." Such denials can indicate that a defendant was "either sufficiently familiar with the facts, or severely reckless in not being familiar, to be in a position to issue a denial." In re ArthroCare Corp. Sec. Litig., 726 F. Supp. 2d 696, 711–12 (W.D. Tex. 2010).

B. Motive

Contrary to Defendants' assertions, the allegations here suggest that Defendants had motive to inflate Cassava's stock price. Weeks before releasing the "final results" of Phase 2b, Cassava's Board instituted a new cash bonus plan tying executive bonuses to short-term increases in Cassava's stock price. Plaintiffs point out that, although Defendants never ultimately received the hundreds of millions of dollars in bonus payments provided for by the plan, Defendants "obviously did not orchestrate the unforeseen filing of the Citizen Petition" and the

bonus plan nonetheless "allowed Defendants to profit regardless of the long-term value of Cassava's stock price." (Dkt. # 86 at 30.) Barbier allegedly earned nearly $27 million in salary, bonuses, and stock option grants as CEO of Pain Therapeutics even though the stock price of Pain Therapeutics ultimately lost 98% of its value. (Dkt. # 68 ¶ 76.)

Defendants have not explained the timing of the cash bonus plan or the reason for its structure. Although "incentive compensation" typically cannot be the basis on which an allegation of fraud is predicated," Tuchman v. DSC Commc'ns Corp., 14 F.3d 1061, 1068 (5th Cir. 1994), the circumstances and structure of this cash bonus plan support an inference of scienter. See Six Flags Ent. Corp., 58 F.4th at 215 (quoting Mun. Employees' Ret. Sys. of Michigan v. Pier 1 Imports, Inc., 935 F.3d 424, 431 (5th Cir. 2019) ("[P]erformance-based compensation can establish motive in circumstances 'when the potential bonus is extremely high and other allegations support an inference of scienter.'")

In addition, by pumping up Cassava's stock price, Defendants were able to raise much-needed working capital for the future development of simufilam. This can be probative of scienter. See Skiadas v. Acer Therapeutics Inc., No. 1:19-CV-6137-GHW, 2020 WL 3268495, at *11 (S.D.N.Y. June 16, 2020) (noting that when a company needs to fundraise to survive, an executive "has a stronger incentive to bet the farm in a reckless gamble because the

alternative is certain failure"); In re Portal Software, Inc. Sec. Litig., No. C-03-5138 VRW, 2005 WL 1910923, at *12 (N.D. Cal. Aug. 10, 2005) (the contention that the defendants "were motivated to inflate artificially [the company's] stock price in the short term in order to conduct a successful secondary public offering and obtain much-needed operating capital does allege facts of a palpable motive for fraud").

C. Generalized or Group Pleading

The PSLRA requires that plaintiffs "distinguish among those they sue and enlighten *each defendant* as to his or her particular part in the alleged fraud. As such, corporate officers may not be held responsible for unattributed corporate statements solely on the basis of their titles." Southland Sec. Corp. v. INSpire Ins. Sols., Inc., 365 F.3d 353, 365 (5th Cir. 2004).

The "core operations" theory of scienter provides that "special circumstances, *taken together with an officer's position*, may support a strong inference of scienter." Six Flags Ent. Corp., 58 F.4th at 219 (emphasis added). Relevant factors may include: (1) the size of the company; (2) whether the transactions are "critical to the company's continued vitality"; (3) whether the misrepresented information "would have been readily apparent to the speaker"; and (4) whether "the defendant's statements were internally inconsistent with one

another." Id. at 219 (quoting Loc. 731 I.B. of T. Excavators & Pavers Pension Tr. Fund v. Diodes, Inc., 810 F.3d 951, 959 (5th Cir. 2016)).

Barbier served as Cassava's Chief Executive Officer; Dr. Burns as Senior Vice President of Neuroscience; Dr. Friedmann as Chief Operating Officer and Chief Medical Officer; and Schoen as Chief Financial Officer. (Dkt. # 68 ¶¶ 59–68.)

The first two circumstances are clearly present. Cassava is a small company, with only eight or nine employees in 2019 and eleven in 2020. (Id. ¶ 440.) Simufilam is Cassava's primary drug candidate, and the company has no other revenue. (Id.)

As for the third circumstance, Plaintiffs note that Barbier, Dr. Burns, and Dr. Friedmann authored Cassava's 2020 paper on the (allegedly manipulated) 2a study results. (Dkt. # 86 at 24.) Dr. Burns, who is married to Barbier, co-authored the research papers and Cassava presentations alleged to contain manipulated data. (Dkt. # 68 ¶ 61.) Barbier, Dr. Burns, and Dr. Friedmann were members of Cassava's product development and management teams. (Id. ¶¶ 59–64.) Each of these Defendants had important responsibilities at Cassava: "global responsibilities for the scientific direction, management, operations, strategy, and financing of the Company" (Barbier), "monitor[ing] the proof-of-concept research, lead selection and efficacy experiments for [simufilam] and over[seeing] IND-

enabling studies, chronic toxicity studies, and first-in-human and first-in-patient clinical trials" (Dr. Burns), and "over[seeing] the clinical development of simufilam" (Dr. Friedmann).

The presence of these circumstances contributes to an inference of scienter as to these three Defendants with respect to the alleged material misstatements regarding Cassava's research. See also Frater, 996 F. Supp. 2d at 350 ("The defendants are sophisticated scientists running a regulated, publicly traded corporation . . . .")

The scienter allegations regarding Schoen are weaker. Schoen, as CFO, does not appear to have been directly involved with Cassava's scientific research. He is not alleged to have authored the journal articles or posters in question. And Defendants are correct that "a basis for scienter beyond signatures on SEC filings is required." (Dkt. # 90 at 11 n.17) (citing Izadjoo v. Helix Energy Sols. Grp., Inc., 237 F. Supp. 3d 492, 520 (S.D. Tex. 2017)).

However, Plaintiffs have alleged facts supporting an inference that, at least as to Cassava's failure to disclose that the "outside lab" conducting the reanalysis for the Phase 2b study was Dr. Wang's lab, Schoen possessed the requisite scienter. On September 14, 2020, the day that Cassava announced its Phase 2b "final results," a Form 8-K—signed by Schoen and attaching Cassava's September 14, 2020 press release and presentation regarding the results—was filed

with the SEC. (Dkt. # 68 ¶ 268.) The misleading nature of certain statements in the press release—"[a]ll CSF samples were sent to outside labs for bioanalysis" and "[a]n academic lab generated final results"—would have been readily apparent given the importance of these results to Cassava, even to someone without a science background. Schoen's participation in the Company's cash bonus plan, though not sufficient on its own, also supports an inference of scienter. (Id. ¶ 68.)

Although it is a closer call, the Court concludes that the necessary strong inference of scienter has been adequately pleaded as to Schoen.

In conclusion, accepting the factual allegations as true, and considering inferences supporting as well as opposing scienter, the Court finds that Plaintiffs have adequately alleged scienter as to each Defendant.

IV. Loss Causation

Finally, Defendants contend that Plaintiffs have not established loss causation. (Dkt. # 81 at 29.) Defendants state that none of the corrective disclosures identified by Plaintiffs reveal a "truth" that was misstated or omitted—rather, most of the disclosures contain "uncharged or unadjudicated public accusations of wrongdoing." (Id. at 31.)

For a complaint to adequately plead loss causation, "it need only set forth 'a short and plain statement of the claim showing that the pleader is entitled to relief' and provide the defendant with 'fair notice of what the plaintiff's claim is

and the grounds upon which it rests.'" Pub. Emps. Ret. Sys. of Mississippi, Puerto Rico Tchrs. Ret. Sys. v. Amedisys, Inc., 769 F.3d 313, 320 (5th Cir. 2014) (citing Dura Pharms., Inc. v. Broudo, 544 U.S. 336, 346 (2005)). The complaint must include "sufficient allegations the misrepresentations actually *caused* plaintiffs' loss—it is insufficient to simply allege the misrepresentation 'touches upon' a later economic loss." In re ArthroCare Corp. Sec. Litig., 726 F. Supp. 2d at 725–26; see also Congregation of Ezra Sholom v. Blockbuster, Inc., 504 F. Supp. 2d 151, 167 (N.D. Tex. 2007) ("To allege loss causation adequately, Plaintiffs must explicitly allege a corrective disclosure—i.e., a statement that corrects a previous misrepresentation or discloses a prior omission—that, when disclosed, negatively affected the value of the security.").

"[T]he truth can be gradually perceived in the marketplace through a series of parties disclosures"—for example, the market may learn of possible fraud from newspapers and journals, analysts' questioning financial results, and whistleblowers. Amedisys, 769 F.3d at 322 (citing In re Enron Corp. Sec., Derivative & ERISA Litig., No. MDL–1446, 2005 WL 3504860, at *16 (S.D. Tex. 2005)). Plaintiffs may thus rely on sources like the Citizen Petitions, news articles, Quanterix's press release, and Dr. Bik's postings.

Plaintiffs have alleged that immediately following each partial disclosure, Cassava's stock price dropped. Viewed collectively, these partial

disclosures "gradually informed the market of the relevant truth" regarding Cassava's clinical trial results and published research, "and, thus, collectively constitute a corrective disclosure that adequately pleads loss causation." Parmelee v. Santander Consumer USA Holdings, Inc., No. 3:16-CV-783-K, 2018 WL 276338, at *6 (N.D. Tex. Jan. 3, 2018).

V. Control Person Liability

Individual Defendants argue that the § 20(a) control person liability claim must be dismissed because Plaintiffs failed to allege a primary claim under § 10(b) and Rule 10b-5. However, Plaintiffs have adequately alleged the primary claim as to Barbier, Schoen, Dr. Burns, and Dr. Friedmann. Plaintiffs' § 20(a) claim is therefore not subject to dismissal on this basis. See Georgia Firefighters' Pension Fund v. Anadarko Petroleum Corp., 514 F. Supp. 3d 942, 957 (S.D. Tex. 2021).

VI. Rule 25a Dismissal

On January 27, 2023, Defendants filed a Suggestion of Death of Defendant Nadav Friedmann. (Dkt. # 91). The Federal Rules of Civil Procedure provide:

> If a party dies and the claim is not extinguished, the court may order substitution of the proper party. A motion for substitution may be made by any party or by the decedent's successor or representative. If the motion is not made within 90 days after service of a statement noting the death, the action by or against the decedent must be dismissed.

Fed. R. Civ. P. 25(a)(1).

More than ninety days have passed since Defendants notified the Court and parties of the death of Dr. Friedmann. Because no motion for substitution has been filed, Plaintiffs' claims against Dr. Friedmann must be dismissed. See Ray v. Koester, 85 F. App'x 983, 985 (5th Cir. 2004) (affirming dismissal following the plaintiff's failure to timely file a motion to substitute).

CONCLUSION

For the reasons stated above, Defendants' Motion to Dismiss the Complaint (Dkt. # 81) is **GRANTED IN PART** and **DENIED IN PART**. Plaintiffs' claims against Defendant Nadav Friedmann are **DISMISSED WITH PREJUDICE** pursuant to Federal Rule of Civil Procedure 25(a)(1). The Motion to Dismiss Plaintiffs' claims as to all other Defendants is **DENIED**.

IT IS SO ORDERED.

DATED: Austin, Texas, May 11, 2023.

David Alan Ezra
Senior United States District Judge